**Math079 Course Outcomes (Knowledge, Skills, Abilities)**

*Upon successful completion of the course, the successful student will be able to*

* Recognize and appropriately apply the properties of integers.
* Perform operations (+, -, ×, ÷) on integers.
* Use order of operations with integers.
* Perform operations (+, -, ×, ÷) on fractions and mixed numbers.
* Reduce fractions by find the greatest common factor.
* Build equivalent fractions using the least common multiple.
* Solve applied area and perimeter problems involving fractions.
* Perform operations (+, -, ×, ÷) on decimals.
* Convert between fractions and decimals.
* Use the Pythagorean Theorem.
* Solve applied area and perimeter problems involving decimals.
* Calculate the arithmetic mean.
* Find ratios and unit rates.
* Solve proportions for a missing variable.
* Convert between fractions, decimals, and percents.
* Solve percent problems using equations.
* Solve percent problems using proportions.
* Convert linear, weight, and capacity measurements in both Standard and Metric units.
* Convert between Celsius and Fahrenheit.
* Identify basic geometric figures.
* Calculate perimeter, area, and volume of basic geometric figures.
* Identify relationships between angle measurements

TEXTBOOK ONE

All content pulled from Bittinger’s *Basic College Mathematics with Early Integers*, 2nd Edition

**Module 0: Whole Numbers**

Chapter 1: Whole Numbers

1.1 Standard Notation

Note:

Even though Module 0 is included in the text, it is not actually part of the MATH 079 curriculum.

1.2 Addition

1.3 Subtraction

1.4 Multiplication

1.5 Division

1.6 Rounding and Estimating; Order

1.7 Solving Equations

1.8 Applications and Problem Solving

1.9 Exponential Notation and Order of Operations

**Module 1: Integers**

Chapter 2: Integers

2.1 The Integers

2.2 Addition of Integers

2.3 Subtraction of Integers

2.4 Multiplication of Integers

2.5 Division of Integers and Order of Operations

**Module 2: Fractions**

Chapter 3: Fraction Notation: Multiplication and Division

3.1 Factorizations

3.2 Divisibility

3.3 Fractions and Fraction Notation

3.4 Multiplication and Applications

3.5 Simplifying

3.6 Multiplying, Simplifying, and Applications

3.7 Division and Applications

Chapter 4: Fraction Notation and Mixed Numerals

4.1 Least Common Multiples

4.2 Addition and Applications

4.3 Subtraction, Order, and Applications

4.4 Mixed Numerals

4.5 Addition and Subtraction Using Mixed Numerals; Applications

4.6 Multiplication and Division Using Mixed Numerals; Applications

4.7 Order of Operations; Estimation

**Module 3: Decimals**

Chapter 5: Decimal Notation

5.1 Decimal Notation, Order, and Rounding

5.2 Addition and Subtraction

5.3 Multiplication

5.4 Division

5.5 Converting from Fraction Notation to Decimal Notation

5.6 Estimating

5.7 Applications and Problem Solving

**Module 4: Ratio, Proportions, and Percents**

Chapter 6: Ratio and Proportion

6.1 Introduction to Ratios

6.2 Rates and Unit Prices

6.3 Proportions

6.4 Applications of Proportions

6.5 Geometric Applications

Chapter 7: Percent Notation

7.1 Percent Notation

7.2 Percent Notation and Fraction Notation

7.3 Solving Percent Problems Using Percent Equations

7.4 Solving Percent Problems Using Proportions

7.5 Applications of Percent

7.6 Sales Tax, Commission, and Discount

7.7 Simple and Compound Interest; Credit Cards

**Module 5: Measurement and Geometry**

Chapter 9: Measurement

9.1 Linear Measures: American Units

9.2 Linear Measures: The Metric System

9.4 Weight and Mass; Medical Applications

9.5 Capacity; Medical Applications

9.6 Time and Temperature

Chapter 10: Geometry

10.1 Perimeter

10.2 Area

10.3 Circles

10.4 Volume

10.5 Angles and Triangles

10.6 Square Roots and the Pythagorean Theorem